TECHNICAL MANAGEMENT TEAM
MEETING NOTES
May 5, 2004
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM HOUSE
PORTLAND, OREGON

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS
Facilitator: Donna Silverberg

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

Status of Hanford Reach:
Chris Carlson, Grant County PUD, reported on the weekly average flows at Hanford Reach for April 26th- May 2nd. Operations stayed within the flow band on all days except slightly outside on May 26th and 28th. 919 temperature units were reached at the end of last week. Emergence is expected to end around May 10th, at which point the PUD will begin operating to 400 temperature units, expected to be reached a month later. Chris will continue to update TMT at subsequent meetings.

ACTION: Cindy LeFleur, Washington, will share information about a WDFW monitoring project at Priest Rapids at a future TMT meeting.

Priest Rapids Flow Objective:
The COE ran a QAdjust model using the May early bird water supply forecast, which was slightly lower than the April final. The run projected May flows of 140.6 kcfs and June flows of 128.2 kcfs at Priest Rapids. Lower Granite was modeled at 85 kcfs. A question was raised about what average flow could be met 100% of the time in the model – the COE reported that the lowest flow during the 59-year period in the model was 84 kcfs.

The COE also ran a new model, "ESP", which showed Priest Rapids flows ranging from 113-122 kcfs. The COE noted that there is a good deal of uncertainty with the models, and yet they still provide some idea of what might happen. The COE requested feedback from the TMT on the ESP model. The salmon managers said the model is very helpful and would like to see it continued to be used. The COE will produce this model, which is labor-intensive, every two weeks.

ACTION: TMT members will provide the COE with specific requests for input to the new ESP model, prior to the May 26th TMT meeting. Paul Wagner suggested the model be run for Grand Coulee.

SOR 2004-7: Dave Wills, USFWS, said the objective of SOR 2004-7 is to maintain steady flows at Priest Rapids during May and June. The salmon managers requested that: flows increase at Grand Coulee to provide a day average flow of 120 kcfs at Priest Rapids by this Friday, May 7th. Then, increase flows at Grand Coulee to meet 135 kcfs at

Priest Rapids on May 10th, and maintain until further notice while monitoring the water supply forecast. Also, minimize fluctuations at Priest Rapids. This SOR was put forth in an effort to support steelhead and fall chinook migrations.

ACTION: The action agencies will implement the SOR, starting with a ramp-up at Grand Coulee to meet 120 kcfs at Priest Rapids by May 7th. The COE recommended that TMT members continue to monitor the water supply and fish numbers, and consider both when making operational decisions.

Lower Granite Mortalities:

The Walla Walla COE reported that mortalities at Lower Granite increased from a typical .04-1.5% to just under 2% yesterday, May 4th. The COE is investigating the reason for this, and at this point think it is likely due to a blocked orifice (from debris) at the project. A unit was down for awhile at the project, but the operators did not feel this was the cause of increased mortalities as the timing of the two occurrences did not match up. The operation stayed within 1% efficiency. The salmon managers were asked what their preferred operation would be in the event that units go out of service at Lower Granite – operate outside MOP or spill? Paul Wagner, NOAA, said that if too many fish are collected and units are down, operate outside MOP (as stated in the Fish Passage Plan, FPP); then, if needed, spill. Other salmon managers offered that if there are too many collected fish, spill and collect them at Little Goose. Dave Wills, USFWS, clarified that the salmon managers are concerned with the FPP recommendations on barging and spill, and expect to provide a different view in the plan regarding operations for early migration in the future.

ACTION: Project operators at Lower Granite will continue to monitor the project, and do not expect any more outages. If more fish are collected than can be transported, fish will go through the bypass system.

ACTION: If spill is needed, TMT will be convened to discuss the issue. TMT members will check on the position of their respective executives regarding spill during emergency situations such as the one described above.

*__UPDATE__: The following is an excerpt of an email message from Rudd Turner, COE, to the TMT sent on Thursday, May 6th: "Actual operation: LWG biological staff informed the control room that raceway 9 was beginning to fill at 1500 hours Wednesday May 5 and RSW spill began at 1510 hours, continuing until 0600 hours today, Thursday May 6. A spill level of 100 kcfs was provided at Bonneville last night and early today, during the regular nighttime spill hours."

Bonneville Spill Update:

Jim Adams, COE, reported that some TDG exceedances occurred at Bonneville this week. The salmon managers requested (via email to the COE) that chum protection operations continue through May 6th, and that gas cap operations start on May 7th, to coincide with increased flows at Grand Coulee. It appears that the chum emergence is near if not over. The salmon manager request will be implemented.

McNary Modernization Study Update:

Mark Smith, COE, provided a status summary of the McNary modernization study. His report can be found as a link to today's TMT agenda. The test units were reduced to within 1% due to increased mortality at the project. The test will begin again over the upcoming weekend, the design of which will be discussed with the salmon managers

during a conference call later today (5/5). The COE will continue to monitor and coordinate with the region on this study.

Status of Operations:
Reservoir operations: As of yesterday, Bonneville flows were at 222 kcfs on 5/4, with 115 kcfs spill. McNary inflows were 206.9 kcfs and Lower Granite inflows increased to 70.4 kcfs. Dworshak was at elevation 1564.9' and releasing 5 kcfs/day, with 15 kcfs/day in. Libby was at elevation 2413.2' and releasing 4 kcfs, with 2.3 kcfs in. Albeni Falls was at elevation 2056.4'. Hungry Horse was at 3537' and filling 1'/day. Grand Coulee was at 1270.7' and filling.

The water supply forecast is showing a continual decline. The May early bird shows The Dalles at 76% of normal; Lower Granite at 66% of normal; and the COE May final forecast shows Dworshak at 78% of normal.

The USFWS is planning a sturgeon pulse operation at Libby that may look something like the following: beginning the last week in May, release 10-15 kcfs for one week; then ramp up to 15-18 kcfs and maintain for three weeks; followed by a gradual ramp-down for bull trout operations.

Fish status: 200,000+ juvenile spring chinook were observed at Lower Granite; numbers are picking up at McNary and John Day. 130,000 steelhead were seen; numbers are expected to increase in the next few days. Steelhead show a similar migrating trend to spring chinook. Overall, the timing of the juvenile runs is consistent with previous years. Adult numbers spiked over the last few days, with 125,000 counted to date. Paul Wagner described the adult run as 'above the 10-year average, below expectations'. Cindy LeFleur, WDFW, reported that the projection for the total adult run was reduced from 360,000 to 200,000 for this year.

The tribal fishery is expected to end tomorrow, May 6th. Kyle Martin, CRITFC, will update the group on the results of this year's spring fishery at a future TMT meeting.

Water quality: The COE reported some TDG exceedances at Ice Harbor, likely due to the bulk spill study at Lower Monumental. It was noted that the TMT agenda has a link to the average percent TDG for the 12 highest hours for anyone interested in getting more detail on this.

BPA requested that the spill priority list be changed to shift the focus to the Lower Columbia projects, by moving the Snake River projects to the bottom of the list.

ACTION: The COE will change the list to reflect what is written in the WMP. The salmon managers will send feedback on the updated list to the COE by Friday, May 7th. Rudd Turner, COE, will then send an email out to TMT with an update on the status of the list.

Water Management Plan Spring/Summer Update:

The COE would like to finalize the spring/summer update by next Wednesday, May 12th. CRITFC will provide comments early next week and the USFWS will provide information about sturgeon pulse operations.

TMT Meeting Schedule:
A conference call will be held on **Wednesday, May 12th from 9-10am**. Agenda items include:

- Final WMP Spring/Summer Update
- TMT Guidelines
- Mid-Columbia Flows
- May Final Water Supply Forecast

The next face-to-face TMT meeting will be held on **Wednesday, May 26th, from 9am-noon**. An agenda will be circulated and posted on the TMT web page prior to the meeting.

1. Greeting and Introductions

The May 5 Technical Management Team meeting was chaired by Rudd Turner of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Turner at 503/808-3936.

2. Status of Hanford Reach.

For the week ending May 2, said Chris Carlson, weekly average flow at Priest Rapids was 110.2 Kcfs; the flow band ranged from 30 to 40 Kcfs. Day-average flows were within or very close to the flow bands every day, exceeded by no more than 5 Kcfs. As of May 2, said Carlson, we were at 919 temperature units since the end of spawning; the end of emergence has not yet occurred. Carlson added that the calculated minimum flow over the weekend was 100 Kcfs; that minimum flow was met on both Saturday and Sunday. Carlson added that he calculates that the end of emergence will occur on May 10, at which point the clock will start running on the 400 TUs until the flow restriction ends. It should take about a month to reach that threshold, given the slightly higher water temperatures we're seeing in 2004, Carlson said, adding that it now appears that WDFW is doing some biological monitoring in the Hanford Reach this year, using leftover funds from last year's contract. Cindy LeFleur said she will provide further information at next week's TMT meeting

3. Priest Rapids Flow Objectives/SOR 2004-7.

Turner provided an overview of recent Corps model runs, produced in response to a request at a previous TMT meeting. The first is a Q-adjust model run based on the May early-bird forecast, which has declined slightly from the April final forecast. It shows average Priest Rapids flows of 140.6 Kcfs and 128.2 Kcfs in May and June, respectively (adjusted for Banks Lake pumping). At Lower Granite, the new Q-adjust run shows average flows of 79 Kcfs and 69 Kcfs in May and June, respectively. At McNary, the

average flow in May and June is projected to be 205 Kcfs and 180 Kcfs, respectively (again adjusted for Banks Lake pumping). Mary Karen Scullion noted that these runs assume refill at Grand Coulee by June 30.

Why are these results different from what STP has been running? Paul Wagner asked. The STP has a lower volume, Julie Ammann replied. That's a good segue, said Turner; the second modeling handout is called "ESP Modeling Results." This shows a range of flows, as well as a comparison to the STP results, Ammann said. This shows we won't be able to hold 135 Kcfs at Priest Rapids for quite as long, Ammann said; however, it shows June flows in the same range as the STP results. She added that, based on an assumed runoff of 54.2 MAF at Grand Coulee, April 10-June 30 average flows at Priest Rapids Dam ranged from 113 Kcfs to 122 Kcfs. According to the ESP results, it will be possible to maintain the 135 Kcfs weekly average flow at Priest Rapids only through the first few days of June. And which of these forecasts do you have the most confidence in – QAdjust, STP or ESP? Wagner asked. Ammann replied that there is no way to know which is more accurate, at this point, although in her opinion, QAdjust and ESP are more accurate than STP.

Turner said any comments the TMT might have regarding the usefulness of the ESP information as a tool for managing flow would be helpful to the Corps.

On May 4, the action agencies received SOR 2004-7. This SOR, supported by USFWS, IDFG, ODFW, WDFW, NOAA Fisheries and CRITFC, requests the following specific operations:

- Increase flows at Grand Coulee Dam to provide a day-average flow of 120 Kcfs by Friday, May 7 at Priest Rapids Dam.
- Further increase flows at Grand Coulee on May 10 to provide a weekly average flow of 135 Kcfs at Priest Rapids.
- Weekly average flows should be maintained at 135 Kcfs after May 10 until further notice; the salmon managers will review the available water supply information on a weekly basis and make flow recommendations for Priest Rapids Dam accordingly.
- Reduce flow fluctuations at Priest Rapids Dam to the greatest extent possible.
- The goal of this operation is to provide relatively steady flows during the months of May and June. If the operators believe that this goal cannot be accomplished, a discussion of what flows are likely to be sustainable is required.

David Wills provided an overview of the SOR, the full text of which is available via hotlink from today's agenda on the TMT homepage. Please refer to this document for full details.

We were thinking you would make this call earlier in the week, said John Wellschlager; would it be OK to start these flows a little sooner? The sustainability of these flows in May and June is the issue, Paul Wagner replied – will that be a problem? Our perception is consistent with the Corps', in terms of what their models are showing, Wellschlager replied – that sustainability is within the bandwidth described in the STP and QAdjust model runs. Our concern is maintaining 135 Kcfs for as long as possible, Wills said. We understand that objective, Scott Bettin replied; we can't guarantee to nail

it every week. Under a worst-case scenario, we may not be able to hold 135 Kcfs at Priest Rapids through the end of the Hanford Reach rearing period, if, as Chris Carlson said, that should occur around June 10, Bettin said. After that, my understanding is that we will need to begin Grand Coulee refill, Tony Norris added.

Isn't May the most important month to maintain 135 Kcfs at Priest Rapids, in order to protect migrating steelhead? Wellschlager asked. That's correct, said Wills, but maintaining the 135 Kcfs target for as long as possible into June will benefit both steelhead and fall chinook. We understand that we're working with a reduced water year, said Wills, but we're trying to meet both needs here.

We're fine with waiting until May 10 to start the weekly average flow regime of 135 Kcfs, said Wellschlager; we could go to 120 Kcfs a day or two earlier, if that's OK with you. After a brief discussion, Wills said the salmon managers would not have a problem if BPA and the Corps want to begin this operation a day or two early. In response to a question, it was agreed that the weekly average flow is calculated on a Monday-Sunday basis; the 135 Kcfs weekly average operation at Priest Rapids will begin on May 10.

So we'll target an average flow of 120 Kcfs on Friday, said Turner – will flows then drop over the weekend? Weekend flows will be no less than 100 Kcfs, Norris replied. In response to a question, Turner said the action agencies will plan to implement the bullets in the SOR relating to flows at Priest Rapids, providing 120 Kcfs by Friday and averaging 135 Kcfs next week. We will provide the discharge from Grand Coulee needed to meet that target, he said, recognizing that juvenile passage is on the rise. However, he said, we would caution the TMT to bear in mind the water supply outlook in weighing biological priorities in May and June – we may have to reduce flows at some point. Understood, Wills replied – we're just as concerned as you are.

4. Bonneville Spill Update.

Jim Adams said the Corps has continued to operate Bonneville to spill up to the gas cap for any flows over 230 Kcfs, with spill of 110 Kcfs for flows between 180 Kcfs and 230 Kcfs. We started to see some exceedences last week, Adams said; that meant that spill was being dictated by the spill caps. The situation has now moderated, he said, and we are planning to increase nighttime spill at Bonneville beginning tonight, perhaps up to 130 Kcfs.

Turner noted that, at last week's TMT meeting, the Corps asked the salmon managers to develop an operational recommendation regarding the chum protection operation; they asked us to extend the chum protection operation through this Friday. Wills said ODFW believes that chum emergence is pretty much over; we felt holding the chum protection operation through the end of this week would be prudent. We then recommend that we start spilling up to the gas cap starting this weekend, given the increased flows from Grand Coulee, he said. And that's NOAA Fisheries' recommendation as well? Turner asked. Yes, Wagner replied. The Corps agreed to implement the operation as requested by the salmon managers. Beginning Friday morning, we'll go to 75 Kcfs spill during the day and up to the gas cap at night,

regardless of tailwater elevation, said Adams. With the understanding that, this weekend, we will have a 30 Kcfs powerhouse minimum at Bonneville, which may make it hard to spill up to the gas cap, Bettin noted.

5. McNary Modernization Study Update.

Turner directed the group's attention to the one-page written summary describing recent descaling and mortality problems at McNary Dam. On April 29, project personnel noticed dead fish in the gatewells of Unit 2; WDFW estimated descaling at 14% and mortality at 2.5%. We immediately ended the test and reduced unit loading to within 1%, he said; that operation has continued ever since. Smith noted that project personnel observed fish being "pinched" on the traveling VBS (test screen) in slot A of Unit 4. Descaling is now down to 5-6%, but mortality is still running 2.5%, said Smith. The plan is to continue normal inspections, then re-start the test at 5 a.m. this Saturday, May 8, again monitoring closely, Smith said, with four units operating outside 1%, although that may be reduced to two or three units. We'll keep you informed, Smith said.

6. Current System Status.

Turner said Bonneville hit 222 Kcfs yesterday, with 115 Kcfs spill. McNary's day-average flow was 206.9 Kcfs yesterday, up from 165 Kcfs earlier in the week. At Lower Granite, yesterday's day-average flow was 70.9 Kcfs; it is expected to exceed 80 Kcfs today; Lower Snake flows are expected to decline after that. At Dworshak, the current elevation is 1564.9 feet, with 5 Kcfs outflow during the day and 1.5 Kcfs at night (a day-average flow of 4 Kcfs). With inflows on the order of 15 Kcfs, the project is filling a foot a day. Libby is at elevation 2413.2, with 4 Kcfs outflow and 23 Kcfs inflow; the project is filling a foot per day. Albeni Falls is at elevation 2065.4 feet, currently; the obective is to fill the project slowly to elevation 2058 by May 31. Hungry Horse is at elevation 3537, filling a foot per day, with 14 Kcfs inflow, said Norris. Columbia Falls is running 25 Kcfs and should go higher over the next few days. Grand Coulee is currently at elevation 1270.7 and filling, with inflows of 150 Kcfs.

The May early-bird forecast is now available, said Turner; at The Dalles, it shows 81.6 MAF, 76% of average, down slightly from the April final. At Lower Granite, the May early-bird forecast shows an April-July volume of 14.3 MAF, 66% of normal, also down slightly from the April final. At Dworshak, the forecast is now 2.06 MAF, 78% of normal, down from 86% of normal in the April final.

Will Dworshak continue to release 4 Kcfs? Wagner asked. Probably for at least another week, Julie Ammann replied, with 2.2 Kcfs day-average outflow out on the weekend and 4 Kcfs during the week; after that, we will re-evaluate that operation. We need to fill the project, but not too quickly, Ammann said.

With respect to the sturgeon operation, Turner said he had discussed this issue with Bob Hallock. With water temperatures rising more rapidly than normal, the Fish and Wildlife Service is expected to request that the sturgeon operation begin during the last week in May, with 10-15 Kcfs outflow from Libby for the first week, followed by flows of 18-20 Kcfs for the next three weeks.

With respect to smolt data, Wagner reiterated that the yearling chinook passage index hit almost 300,000 at Lower Granite yesterday and should exceed that today, up from 200,000 during the past few days. At McNary, counts are picking up as well, from about 30,000 last week to 60,000+ in recent days. For steelhead, the numbers at Lower Granite are expected to increase sharply today. The Rock Island index has also picked up, to 130,000 yesterday, up from about 60,000 over the past few days. In terms of adult passage at Bonneville, said Wagner, counts picked up over the weekend, to the 8,000 fish-per-day range; counts have since declined to about 4,000 fish per day. The run to date is about 125,000 chinook, slightly in excess of the 10-year average, but far below the pre-season prediction of 361,000 for the season. Cindy LeFleur noted that the total 2004 run size has recently been downgraded to about 200,000 adult chinook. The fishery below Bonneville has accounted for about 30,000 fish, she added. Kyle Martin said the tribal fishery is scheduled to continue through tomorrow night.

Bettin said there are no power system problems to report at this time.

Adams noted that there were a number of water quality exceedences last week at Lower Monumental, probably as a result of the bulk spill pattern. He said Mike Schneider has since modified the algorithms in his SYSTDG model to factor in powerhouse entrainment from bulk spill, and the Corps is waiting to see how well they function.

Revisiting the spill priority list question, after a brief discussion, there was no TMT objection to making the Lower Columbia projects the first priority, starting with McNary; the Lower Snake projects would then move lower on the list, with Lower Granite the last priority. This is mainly a what-if, said Bettin – it is highly unlikely that we will have to use the spill priority list in 2004, unless a major generation or transmission system outage occurs. Wagner said the salmon managers will review this list with the other salmon managers and will let the action agencies know if there are any objections to the change. If there are no objections, the revised spill priority list will go into effect on Friday, May 7.

Turner also drew the group's attention to the most recent version of the "Volumes at Dworshak" graph, dated May 3. This shows a volume of 349 kaf available for flow augmentation at Dworshak, assuming 50% confidence of refill, between now and June 30. That compares to an estimated volume of 589 kaf in last week's graph. He noted that the graphs for Libby have also been updated; the May final water supply forecast for Libby is expected to be available tomorrow, after which this graph will be updated again. Turner added that an updated ESP model run is also available for Lower Granite. Again, any comments about the usefulness of this information would be appreciated, said Turner. They are quite useful, Wagner replied; Wills agreed.

7. Comments on 2004 WMP Spring/Summer Update.

Boyd noted that no comments have been received on this document since the last TMT meeting; Martin said CRITFC will provide its comments next week. Wills said the Fish and wildlife Service will also be providing comments. Boyd said he will plan to

produce a final draft of the spring/summer update prior to next week's TMT meeting, and will append any comments received once that is produced.

8. Other.

A. Mortality at Lower Granite Dam. Turner said there was a situation for some hours at Lower Granite yesterday, when dead fish were showing up in the raceways during the mid- to late morning period. They're trying to figure out what the cause was, and what protective measures we can undertake, Turner said. Dave Hurson said that it looks as though about 700,000 fish were collected in the last 24 hours, which makes it the high day of the year so far, up from a previous high of 416,000 on April 27. Mortality has been running less than 1%, he said; between 8 and 11 a.m. yesterday, we saw just under 2% mortality. We'll likely be between 1% and 1.5% mortality for the day, he said, and that's where we are right now. They are unsure of the cause, although they found one blocked orifice (debris) in one of the turbine units and immediately switched to the second orifice. Overall, he said, we saw about 4,000 mortalities yesterday. Did the project operate outside 1% yesterday? Margaret Filardo asked. No, Dick Hammer replied. And what's the hydraulic capacity at Lower Granite with five units operating? Filardo asked. About 100 Kcfs, Turner replied.

Where do we go from here? Silverberg asked. We're continuing to monitor the orifices every two hours, Hammer replied, as well as watching unit generation closely. Turner noted that Lower Granite flows averaged 70 Kcfs yesterday and are about 82 Kcfs, currently. Bettin noted that, if units are lost this time of year, the operational options would include filling outside of MOP, spilling or operating outside 1%. Does the TMT have a preference? I would prefer to run the RSW, said Wills. We would prefer to bypass fish, in order to avoid spill, said Bettin. If you're looking for preferences, we would prefer that you pass them through the RSW as well, Wagner said. If you're collecting too many fish to transport, we would prefer to pass them via the RSW, if units are out of service, Wagner said. That's acceptable, said Bettin – however, if all the units are running, the protocol is to bypass the excess fish.

Turner noted that the Fish Passage Plan discusses the fish density limits allowed in the raceways and barges, as well as the bypass protocol. If units go down, however, we'll need to have an emergency TMT conference call to discuss it, said Turner – I can't agree, without discussion with the Corps executives, to put spill back onto the table as a default option. We would need to convene a TMT emergency call, Turner said. He added that this is unlikely to be a major issue in 2004, unless units go out unexpectedly; we may be at the flow peak for Lower Granite for the year.

Still, I think what all of the salmon managers are saying is that, if we collect too many fish to transport at Lower Granite, the best thing to do, biologically, would be to spill the excess fish, said Russ Kiefer. The executives made the decision to transport the fish rather than spill them this year, but if they cannot transport all of the listed fish arriving at Lower Granite, it would be better to spill what cannot be transported. Mechanically collecting and bypassing the fish would be a bad decision, biologically. Wagner replied that NOAA Fisheries stands by the Fish Passage Plan, in terms of its recommendation that excess collections be bypassed as long as flows do not exceed

hydraulic capacity and all units are operating at Lower Granite. If units go down, he said, that's when spill becomes an option. We are expecting to have five units available at Lower Granite for at least the next week, added Hammer, with the caveat that there appears to be a ground fault problem when Units 3 and 4 are started in a certain sequence. Given the fact that Units 3 and 4 are now up and running, and will continue to run until flows recede, however, this is unlikely to cause problems for the foreseeable future.

Silverberg summarized by saying that, while there does not appear to be complete consensus on this issue, NOAA Fisheries supports the operation outlined in the Fish Passage Plan, which is to bypass fish collected in excess of transportation capacity unless units go down, in which case the excess fish will be spilled via the RSW. She suggested that the salmon managers discuss this issue further. Wills replied that the split among the salmon managers is probably smaller than it appears; we remain concerned that the fish that are handled have lower SARs than the fish that pass via spill. We'll look forward to discussing this issue further at a future TMT meeting, Wills said. Bettin clarified that the first option, if units go down at Lower Granite, will be to fill Granite pool outside of MOP; after that, we will spill. With the understanding that we will convene an emergency TMT call to discuss the situation as soon as possible, Turner added. It was further agreed that the TMT will reconsider the current spill priority list.

9 Next TMT Meeting Date.

The next Technical Management Team meeting was set for Wednesday, May 12. Meeting summary prepared b y Jeff Kuechle.

TMT ATTENDANCE LIST
May 5, 2004

Name	**Affiliation**
Rudd Turner	COE
Donna Silverberg	Facilitation Team
Robin Harkless	Facilitation Team
Tony Norris	USBR
Mike O'Bryant	CBB
Russ George	WMCI
Kevin Nordt	PPL
Tim Heizenrater	PPM
Scott Boyd	COE
Tina Lundell	COE
Ruth Burris	PGE

Kyle Martin	CRITFC
Jim Adams	COE
Paul Wagner	NOAAF
Scott Bettin	BPA
Julie Ammann	COE
Dan Bedbury	EWEB
Margaret Filardo	FPC
Chris Carlson	GCPUD
Russ Kiefer	IDFG
Amy Reece	COE
Dave Hurson	COE
John Wellschlager	BPA
Nic Lane	BPA
Tom Le	PSE
Cindy LeFleur	WDFW
David Benner	FPC
Ed Mount	PRM
David Wills	FPC
Richelle Beck	D. Rohr & Associates
Mike Buchko	Powerex
Tom Haymaker	PNGC
Bruce MacKay	Consultant